

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte HIROTOSHI ISE

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Appeal No. 2004-0630  
Application No. 09/755,177

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ON BRIEF

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Before GARRIS, OWENS and DELMENDO, Administrative Patent Judges.  
GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal which involves claims 7-12.<sup>1</sup>  
The other claims pending in the application, which are claims 1-6

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<sup>1</sup> On page 2 of the Brief, the appellant states that "[a]n Amendment is filed concurrently with this Appeal Brief to correct a typographical error in claim 11 to correct dependency." The file record for this application does not contain the aforementioned amendment. However, this circumstance need not delay or otherwise impede our disposition of the subject appeal since the issues before us as framed by the appellant and the examiner are unaffected by the dependency of claim 11. Nevertheless, in any further prosecution that may occur, the appellant and the examiner may wish to address and resolve the circumstance involving this amendment.

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and 13, stand withdrawn from further consideration by the examiner.

The subject matter on appeal relates to a cleaning method for removing remover solvent from a substrate which comprises the step of introducing oxygen water into a container by way of an inlet pipe. This appealed subject matter is adequately represented by independent claim 7 which reads as follows:

7. A cleaning method for removing remover solvent from a substrate to be rinsed, comprising the step of:

introducing oxygen water of high concentration into a container by way of an oxygen-water-of-high-concentration inlet pipe which introduces an oxygen-water-of-high-concentration, the container retaining the substrate therein and having an inlet port for introducing a solution into the container in a controllable manner and an outlet port for discharging the solution outside in a controllable manner.

The reference set forth below is relied upon by the examiner in the § 102 and § 103 rejections before us:

Kashiwase et al. (Kashiwase)	5,378,317	Jan. 3, 1995
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Claims 7-11 are rejected under 35 U.S.C. § 102(b) as being anticipated by Kashiwase, and claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kashiwase.<sup>2</sup>

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<sup>2</sup> On page 4 of the Brief, the appellant indicates that the appealed claims are grouped pursuant to the manner in which they have been rejected by the examiner. Further, the appellant's subsequent arguments regarding the appealed claims are consistent  
(continued...)

Rather than reiterate the respective positions advocated by the appellant and the examiner concerning these rejections, we refer to the Brief and Reply Brief and to the Answer for a complete exposition thereof.

OPINION

For the reasons set forth below, we will sustain each of the rejections before us on this appeal.

Kashiwase discloses methods for removing a photoresist film from a semiconductor substrate which involve wet (as well as dry) processing techniques (e.g., see the Abstract). In the normal wet method of the prior art, the semiconductor substrate or wafer is immersed in a solution of sulfuric acid and hydrogen peroxide for removal of the photoresist film and then is rinsed with ultra pure water to remove any chemical solution attached on the substrate or residue of the photoresist film (e.g., see lines 48-68 in column 1 and lines 1-5 in column 2). In Kashiwase's method, this normal wet method for removing photoresist film is followed by immersing the substrate in a solution containing

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<sup>2</sup>(...continued)  
with such a claim grouping. It follows that, in assessing the merits of the above-noted rejections, we will focus on sole independent claim 7 with respect to the § 102 rejection and on claim 12 with respect to the § 103 rejection. See 37 CFR § 1.192(c)(7)(8) (2002).

ozone dissolved in ultra pure water (e.g., see lines 22-36 in column 4 and lines 36-54 in column 5). Following this immersion, the substrate is rinsed in ultra pure water (e.g., see lines 52-64 in column 6).

As acknowledged by the appellant (e.g., see page 10 of the Brief), one of patentee's embodiments for his previously described method includes the step of introducing into the immersion or processing tank/container water having dissolved ozone therein (e.g., see lines 34-37 in column 7). The examiner finds that this embodiment of the Kashiwase method anticipatorily satisfies all of the requirements of appealed independent claim 7. According to the appellant, the examiner's finding is erroneous for two fundamental reasons.

First, the appellant argues that the method of Kashiwase does not involve removing remover solvent from a substrate pursuant to the independent claim on appeal. However, patentee's method includes removing a photoresist film with a solution comprising sulfuric acid wherein the so-treated substrate is then rinsed so as to remove solution and film residue from the substrate (e.g., again see the previously cited disclosures in columns 1, 2 and 4-7). Thus, patentee's method includes the removal of sulfuric acid solution from his substrate. This

sulfuric acid solution corresponds to the remover solvent which is recited in the claim under review, as revealed by the first full paragraph on page 9 of the appellant's specification. It follows that the argument in question is factually erroneous and concomitantly unconvincing.

In addition, the appellant argues that the above-discussed embodiment of Kashiwase "does not have a separate inlet port for introducing a solution" (Brief, page 10; emphasis deleted). This argument lacks persuasive merit in several respects.

First, the independent claim on appeal recites only a single method step of "introducing oxygen water of high concentration into a container by way of an oxygen-water-of-high-concentration inlet pipe which introduces an oxygen-water-of-high-concentration," and the appellant implicitly concedes that this step is met by Kashiwase (e.g., again see page 10 of the Brief). While claim 7 includes additional apparatus recitation to the effect that the afore-quoted container has "an inlet port for introducing a solution into the container in a controllable manner," we do not perceive and the appellant does not explain what if any impact this apparatus recitation has on the previously quoted method step. See Leesoma Corp. v. U.S.,

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185 USPQ 156, 165 (Ct. Cl. Trial Div. 1975), aff'd per curiam 530 F.2d 896, 192 USPQ 672 (U.S. Ct. Cl. 1976) (patentability of a method claim must rest on method steps recited, not on structure used, unless structure affects method steps).

Even if the apparatus recitation somehow limits the method step, we discern no merit in the appellant's implicit contention that the claim 7 method requires "a separate inlet port for introducing a solution" (Brief, page 10, emphasis deleted). Nothing in the appellant's independent claim requires that the solution inlet port be separate from the oxygen water inlet pipe. Similarly, the appellant points to nothing and we find nothing in the subject specification which requires the solution inlet port to be separate or different from the oxygen water inlet pipe. See In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). Therefore, even when viewed in a light most generous to the appellant, claim 7 cannot be interpreted as requiring a separate inlet port for introducing a solution as the appellant seems to believe. See In re Self, 671 F.2d 1344, 1348, 213 USPQ 1, 5 (CCPA 1982).

Finally, it is questionable whether the appellant's argument would have merit even if claim 7 were limited in the fashion urged by the appellant. This is because the solution inlet port

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recited in claim 7 seemingly would correspond to Kashiwase's ultra pure water supply pipe 36 as pointed out by the examiner (e.g., see page 5 of the Answer). Though not explicitly required by appealed claim 7, this pipe 36 would be used separately from ozone-plus-water supply pipe 38 for the purpose of performing Kashiwase's ultra pure water rinsing step (see lines 63-64 in column 6).

Under the circumstances recounted above, it is our determination that the reference evidence adduced by the examiner establishes a prima facie case of anticipation with respect to the independent claim on appeal which the appellant has failed to successfully rebut with argument and/or evidence to the contrary. We shall sustain, therefore, the examiner's § 102 rejection of claims 7-11 as being anticipated by Kashiwase. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444.

Regarding the § 103 rejection of dependent claim 12, the appellant's sole argument is that "the Examiner has not identified all the requisite elements in Kashiwase or any other document of record as required by 35 U.S.C. § 103" (Brief, page 11). It is not immediately apparent to us what relevance this argument has to the obviousness issue raised by the examiner's rejection of claim 12. This claim requires a concentration of

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the aqueous hydrogen peroxide to be within a range of from 1 to 5%. According to the examiner,

[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to have the concentration of [Kashiwase's] hydrogen peroxide be 1 to 5% as disclosed in the claimed invention, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

(Answer, page 4). This obviousness conclusion is based on a factual finding, which is plainly correct as previously explained, and a legal principle, which is well settled (see In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990); In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980); In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)). Moreover, the appellant's afore-quoted argument does not in any way contest the examiner's reliance on this factual finding or legal principle.

Under these circumstances, we also shall sustain the examiner's § 103 rejection of claim 12 as being unpatentable over Kashiwase.

The decision of the examiner is affirmed.



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No time period for taking any subsequent action in  
connection with this appeal may be extended under 37 CFR  
§ 1.136(a).

AFFIRMED

BRADLEY R. GARRIS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
TERRY J. OWENS	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
ROMULO H. DELMENDO	)	
Administrative Patent Judge	)	

BRG:clm

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